

VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a **Minor Industrial** permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260. The discharges result from storm water associated with industrial activity and non-contact cooling water used during the manufacture of solar, safety, and decorative films for automotive and building applications. The permit action consists of reissuing the permit for a five-year term with limitations on the non-contact cooling water for temperature and pH. The permit also addresses storm water pollution prevention.

1. Facility Name and Address: **CPFilms Inc.**
P.O. Box 5068
Martinsville, VA 24115
SIC Code: 3083

Location: 4210 The Great Road, Fieldale, VA 24089 (Henry County)
2. Permit No. **VA0072354** Expiration Date: May 30, 2016
3. Owner Contact: Name: Mr. John Martinez Title: Environmental Specialist
Telephone No: (276) 627-3373
4. Application Complete Date: February 11, 2016
Permit Drafted By: Lynn V. Wise Date: April 19, 2016
DEQ Regional Office: Blue Ridge Regional Office - Roanoke
Reviewed By: Kip Foster Date: April 25, 2016
Public Comment Period Dates: From: 4/22/16 To: 5/23/16
5. Receiving Stream Names: Smith River and Smith River, UT River Mile: 35.29 and 0.08
Basin: Roanoke River Subbasin: Roanoke River
Section: 3d Class: VI Special Standards: PWS

	<u>Smith River</u>	<u>Smith River, UT</u>
7-Day, 10 Year Low Flow:	63.3 mgd	0 mgd
1-Day, 10 Year Low Flow:	35.2 mgd	0 mgd
30-Day, 5-Year Low Flow:	82.8 mgd	0 mgd
30-Day, 10-Year Low Flow	72.7 mgd	0 mgd
Harmonic Mean Flow:	122.3 mgd	0 mgd

Tidal? YES/NO On 303(d) list? YES/NO
6. Operator License Requirements: None 7. Reliability Class: NA

8. Permit Characterization:
☒ Private ☐ Federal ☐ State ☐ POTW
☐ Possible Interstate Effect ☐ Interim Limits in Other Document (attach to Fact Sheet)

9. Description of Facility Activities:

Discharge Description

OUTFALL NUMBER	DISCHARGE SOURCE	TREATMENT	FLOW
001	Once-through Non-contact cooling water; Storm water	None	0.732 MGD*
002	Once-through Non-contact cooling water	None	1.44 MGD
003, 004, 005, 006, 007, 008	Storm water associated with industrial activity	Best Management Practices	NA

* Maximum daily flow reported on Form 2E; there has been no discharge from outfall 001 since Dec 2008

See **Attachment A** for a site map showing the facility, outfalls and storm water drainage areas.

CPFilms is a manufacturer of solar control, safety, and decorative films for automotive and building applications. The facility consists of two plants (#1 and #2) engaged in the enhancement of polyester films through processes including dyeing, metallizing, and sputtering. Cooling water is needed in these processes and is provided either by a closed-loop chiller system or a once-through non-contact cooling system using water from the Smith River. The closed-loop system is the normal mode of cooling, but river water is used in emergency situations, for reliability testing, or when the closed-loop system is down for maintenance. Water can be pumped from the river at a rate of 1000 gallons per minute with a maximum combined daily use of 1.44 million gallons per day. There has been no discharge of cooling water from outfall 001 since December 2008. The intake water is screened with a 2-mm wedge wire screen to catch debris, which is periodically blown back into the river.

All process wastewater is directed to one of two pretreatment lagoons operated in series. In addition, sanitary sewage is directed to the lagoons at either Plant #1 or Plant #2. The wastewater is then treated through an on-site treatment plant prior to discharge to the Henry County collection system, which discharges to the City of Martinsville STP for treatment. Sludge is dried on drying beds, removed to a dumpster and disposed of by an outside contractor.

Storm water is discharged through seven point sources on the site. Outfall 001 receives some runoff from drop inlets in a grassy area and impervious area outside of plant #1. (A loading dock is also located within this drainage area.) In addition, six "storm water only" outfalls were identified.

The majority of the remaining storm water from plant #1 is discharged through Outfall 003 to an unnamed tributary of the Smith River. Some storage of scrap metal and wooden pallets occurs in this drainage area which is mostly grassy with some asphalt parking area. A propane tank is also located within this storage area. Storm water runoff from around the WWTP building (used for pretreatment) is diverted back into the treatment system.

9. Description of Facility Activities (continued):

Outfall 007 drains approximately 15,000 square feet of impervious (paved) surface from Plant 1. The outfall discharges to an unnamed tributary of the Smith River just downstream of Outfall 003. Outfall 008 drains approximately 500 square feet of impervious (paved) surface adjacent to the lagoon and pump house at Plant 1.

The remaining three sources of storm water drain from plant #2. Outfall 005 receives the majority of the storm water "associated with industrial activity" at plant #2. There is some storage of scrap metals and raw materials including stainless steel and aluminum. There are also wooden pallets stored in this drainage area. Drum storage is under cover with concrete berms to retain any spills. The tank farm (consisting of ethylene glycol, N-methyl pyrrolidone, and a mixture of the two) is exposed to storm water but is diked with a three-foot concrete wall. A synthetic liner was placed within the concrete wall and the area is also enclosed with an earthen berm. Piping is in place to route any spills or contaminated storm water to the pretreatment lagoons. A propane tank is also located within this drainage area.

Outfall 006 drains a grassy field. Outfall 004 drains the main parking area as well as some grassy areas. By definition, the storm water discharged through outfall 006 is not considered to be "associated with industrial activity".

10. Sewage Sludge Use or Disposal: Provide a description of sewage sludge land application plan elements addressed in permit, if applicable.

Not applicable. No sewage sludge from the facility is land applied.

11. Discharge(s) Location Description:

The facility is located on the Martinsville West, VA Quadrangle. (Please see **Attachment A**.)

Outfall 001 location: Latitude 36°43'39" Longitude 79°56'50"

Outfall 002 location: Latitude 36°43'44" Longitude 79°57'02"

12. Material Storage:

As can be seen on the site map, there are numerous above ground storage tanks onsite. The majority of the tanks is contained within a concrete diked area with a synthetic liner further enclosed with an earthen berm and/or is under roof. Piping is in place to route any spills or contaminated storm water to the pretreatment lagoons. There is some storage of wooden pallets, scrap metals and raw materials including stainless steel and aluminum. Structural (dikes, berms, swales, ditches, and underground conveyances) and non-structural (personnel training, good housekeeping, routine inspections, and Spill Prevention, Control, and Countermeasure Plan) measures are in place to reduce pollutants in storm water run-off.

Fertilizers and lime are applied to the facility grounds periodically and the herbicide "Domade" is used as needed for weed control in asphalt and concrete areas.

Please see **Attachment A** for a site map showing location of storage tanks and a corresponding listing of quantities of materials stored.

13. Ambient Water Quality Information:

Non-contact cooling water from the facility discharges through Outfalls 001 and 002 to the Smith River at river mile 35.29 and 35.45, respectively. Storm water is also discharged to the Smith River and an unnamed tributary to the Smith River. These receiving streams are classified as Class VI (Natural Trout) waters with a special standard designation as a Public Water Supply (PWS). Flow frequencies for the Smith River were determined using the continuous record gauge on the Smith River at Bassett, VA (#02072500) and proportional drainage areas. CPFilms operates a surface water intake at river mile 35.41. Please see the Flow Frequency Determination memo in **Attachment B** for further details.

The nearest ambient water quality monitoring station is located downstream on the Smith River at river mile 33.19 (4ASRE033.19) with the nearest upstream station located at river mile 43.54 (4ASRE043.54). Summaries of the data are tabulated in **Attachment B**. The 2012 303(d) report lists this segment of the Smith River (from the mouth of Blackberry Creek downstream to the backwaters of the Martinsville power pool) for a bacteria impairment; recreation use is not supported. Sources of the impairment include: municipal (urbanized high density area), unspecified domestic waste, wet weather discharges (non-point source, point source and combinations of storm water, SSO or CSO) and wildlife other than waterfowl. A copy of the pertinent section of the 2012 Impaired Waters Fact Sheet can be found in **Attachment B**.

In January 2013, the permittee reported a spill of approximately 5 gallons of Emulsified Oil Substrate (EOS) through Outfall 006 to an unnamed tributary of the Smith River. (See Form 2F.) A review of the PReP database found no pollution complaints that could be attributed to the CPFilms site.

14. Antidegradation Review & Comments:

Tier: I _____ II XX _____ III _____

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with the Tier determination. Public water supplies and trout streams are assumed to be Tier 2 unless information is available to indicate otherwise. This segment of the Smith River is classified as both a public water supply and a natural trout water. Although the stream segment has been listed on the 303(d) list for bacteria impairment, agency guidance states that non-attainment of the bacteria criteria will not be used to establish the tier category of a water unless there is clear and convincing evidence that the elevated bacteria numbers are due to inadequately disinfected human waste. Therefore, this segment of the Smith River is determined to be a Tier 2 water body.

Since the quality of Tier 2 waters is better than required by the standards, no significant degradation of the existing quality will be allowed. For purposes of aquatic life protection, "significant degradation" means that no more than 25% the difference between the acute and chronic aquatic criteria values and the existing quality (unused assimilative capacity) may be allocated. For purposes of human health protection, "significant degradation" means that no more than 10% of the difference between the human health criteria and the existing quality (unused assimilative capacity) may be allocated. The significant

14. Antidegradation Review & Comments (continued):

degradation baseline (antidegradation baseline) for aquatic life protection is calculated for each pollutant as follows:

$$0.25 (\text{WQS} - \text{existing quality}) + \text{existing quality} = \text{Antidegradation baseline}$$

The antidegradation baseline for human health protection is calculated for each pollutant as follows:

$$0.10 (\text{WQS} - \text{existing quality}) + \text{existing quality} = \text{Antidegradation baseline}$$

The “antidegradation baselines” become the new water quality criteria in Tier 2 waters and effluent limits for future expansions or new facilities must be written to maintain the antidegradation baselines for each pollutant.

Effluent limitations are discussed in detail in Section 16 below. The discharge is in compliance with antidegradation requirements set forth in the Water Quality Standard Regulation, 9 VAC 25-260-30. The antidegradation review was conducted as described in Guidance Memorandum 00-2011, dated August 24, 2000, and complies with the antidegradation policy contained in Virginia’s Water Quality Standards.

15. Site Visit: Date April 19, 2016 Performed by: Lynn Wise

A Technical and Laboratory Inspection, Storm Water Facility Inspection and Evaluation of the Storm Water Pollution Prevention Plan was conducted by Gerald Duff, Compliance Inspector Senior II, on April 9, 2015. There were no requests for action regarding the technical or storm water management portions of the inspection. A copy of the report is on file at the DEQ Blue Ridge Regional Office in Roanoke.

16. Effluent Screening & Limitation Development:

This facility qualifies as a minor industrial with standard limits for non-contact cooling water discharges. A review of the DMR data for the past five years indicates the facility is in compliance with the current limitations. The limitations from the previous permit were reviewed and carried forward as appropriate. Effluent screening and limitation development documentation may be found in **Attachment C**.

Storm water discharges from the facility are regulated as “storm water associated with industrial activity”. Evaluation of storm water management requirements is discussed below.

Outfall 001

This discharge consists of non-contact cooling water and some of the storm water originating from plant #1. There has been no discharge of cooling water at this outfall since December of 2008 due to use of the closed-loop system. When in use, water is pumped from the Smith River, passed through various non-contact cooling operations, and is discharged back to the river. Standard limitations for non-contact cooling water include temperature and pH. The segment of the receiving stream is considered to be natural trout water (class VI) with a maximum temperature limit of 20°C. In addition, in accordance with VR680-21-01.6, the rise above natural temperature shall not exceed 1°C. The standard pH limitations apply (6.0 - 9.0).

16. Effluent Screening & Limitation Development (continued):

Toxics – During a previous permit reissuance process, effluent data for toxic parameters were evaluated for the reasonable potential to cause or contribute to violations of the Water Quality Standards adopted by the Board. None of the parameters were detected at levels above the quantification level specified by the permit. Therefore no limitations were needed. There have been no significant changes in the operations of the plant since that analysis.

Outfall 002

The discharge from this outfall consists entirely of non-contact cooling water from plant #2. As with outfall 001, the temperature and pH limitations are based upon the requirements for natural trout waters. The maximum temperature limit of 20°C, the maximum rise above natural temperature of 1°C, and the standard pH limitations of 6.0 - 9.0 apply.

Toxics – During the last permit reissuance process, effluent data for toxic parameters were evaluated for the reasonable potential to cause or contribute to violations of the Water Quality Standards adopted by the Board. None of the parameters were detected at levels above the quantification level specified by the permit. Therefore no limitations were needed. There have been no significant changes in the operations of the plant since that analysis.

Basis for Effluent Limitations – Outfalls 001 and 002

PARAMETER	BASIS
Flow	NA – monitoring only
Temperature, Instream Temperature Rise, pH	2, 3-Agency Standard Limitations

1. Federal Effluent guidelines – cite CFR
2. Water Quality-based Limits: - show calculations or cite WQM plan reference
3. Best Engineering Judgement: - provide narrative rationale
4. Best Professional Judgement: - provide narrative rationale
5. Other (e.g. wasteload allocation model): - specify & document with model output or WLA from TMDL or basin plan

316(b) Evaluation

Section 316(b) of the Clean Water Act requires NPDES permits for facilities with cooling water intake structures ensure that the location, design, construction, and capacity of the structures reflect the best technology available to minimize harmful impacts on the environment. EPA finalized revisions to the 316(b) Phase II regulations in 2014 (See 40 CFR Part 125.94-99). Under the regulations, existing facilities that withdraw at least 25% of their water from an adjacent waterbody exclusively for cooling purposes and have a design intake flow of greater than 2 million gallons per day (mgd) are required to reduce fish impingement, while facilities that withdraw at least 125 mgd also must address aquatic organisms entrained by the cooling water system.

Under normal operation, this facility uses a closed-loop cooling system. However, during maintenance or emergency, the facility has the potential to use water from the Smith River for cooling. Two pumps rated at 1000 gallons per minute (gpm) are available for this purpose. Controls have been installed that only allow one pump to be in use at a time resulting in a maximum flow rate of 1.44 mgd (The pump control diagram may be found in Attachment C.) This does not meet the Phase II requirements outlined above; thus the facility is only subject to evaluation on a case-by-case BPJ basis. As the facility mainly uses a closed-loop system, it is believed that the location, design, construction, and capacity of the intake structure reflect the best technology available for minimizing environmental impact. No further requirements are being imposed at this time.

16. Effluent Screening & Limitation Development (continued):

STORMWATER (Outfalls 901, 003, 004, 005, 006, 007 and 008)

Storm water is discharged from this site through seven outfalls. In accordance with the VPDES Permit Regulation (9 VAC 25-31-10 et seq.), storm water run-off from this site is regulated as storm water associated with industrial activity. All permits that authorize storm water discharges associated with industrial activity must include storm water management provisions. The five components of the storm water management provisions are: effluent limitations and compliance monitoring, analytical monitoring, storm water management evaluation, general storm water special conditions, and general and sector-specific storm water pollution prevention plan (SWPPP) conditions.

Based upon the Standard Industrial Classification (SIC) code of this facility, the storm water discharges are regulated under the “Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries” sector (Miscellaneous Plastic Products subcategory). EPA Effluent Guidelines do not apply to this sector. Therefore, effluent limitations and compliance monitoring are not required. Similarly, there is no prescribed analytical monitoring for these facilities because, due to the nature of the industrial activity or materials stored on site, they do not have significant potential to contribute pollutants to their storm water discharges.

The need for a storm water management evaluation is determined by comparing available storm water data to the screening criteria. Screening criteria are established at two times the acute water quality criteria in the Water Quality Standards regulation. Storm water data for water quality standards parameters are not available for these discharges because no storm event monitoring is required by the permit. Data submitted on Form 2F were reviewed; none exceeded the EPA Benchmark values for storm water. Therefore, storm water management evaluation requirements are not being implemented at this time.

The final two components of the storm water management provisions are the general storm water conditions, and the general and sector-specific storm water pollution prevention plan conditions. These will be addressed under the special conditions of the permit and Section 19 of this Fact Sheet.

17. Antibacksliding Statement:

All limitations are at least as stringent as the previous permit. The permit is in compliance with the antibacksliding policy.

18. Compliance Schedules: None

19. Special Conditions:

a. **Notification Levels**

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 A for all manufacturing, commercial, mining, and silvicultural dischargers.

b. **Materials Handling/Storage**

Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia § 62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

19. Special Conditions (continued):

c. **Temperature Monitoring**

Rationale: State Water Control Law § 62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. This special condition provides specific information regarding the measurement of temperature in the Smith River that must be reported on the Discharge Monitoring Report (DMR) each month.

d. **Groundwater Monitoring**

Rationale: 9VAC25-280-20. Except where otherwise specified, ground water quality standards shall apply statewide and shall apply to all ground water occurring at and below the uppermost seasonal limits of the water table. In order to prevent the entry of pollutants into ground water occurring in any aquifer, a soil zone or alternate protective measure or device sufficient to preserve and protect present and anticipated uses of ground water shall be maintained at all times. 9VAC25-280-60 Ground water criteria, although not mandatory, also provide guidance in preventing ground water pollution. Also, State Water Control Law 62.1-44.21 authorizes the Board to request information needed to determinate the discharge's impact on State waters. Ground water monitoring for parameters of concern will indicate whether possible lagoon/pond seepage is resulting in violations to the State Water Control Board's Ground Water Standards. The facility has been performing annual monitoring to assess the influence of the pretreatment lagoons on the groundwater. In addition, a risk assessment was completed in 1996, which identified the receptor to be the Smith River and concluded that the leaking lagoon did not present an appreciable risk to human health or the environment. While DEQ staff agreed with this conclusion, it was recommended that the permittee continue monitoring and consider taking action to reduce the source of pollutants.

e. **Total Maximum Daily Load (TMDL) Reopener**

Rationale: Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

f. **Storm Water Management**

Rationale: VPDES Permit Regulation, 9 VAC 25-31-10 defines discharges of storm water from industrial activity in 9 industrial categories. 9 VAC 25-31-120 requires a permit for these discharges. The Storm Water Pollution Prevention Plan requirements of the permit are derived from the VPDES general permit for discharges of storm water associated with industrial activity, 9 VAC 25-151-10 et seq. VPDES Permit Regulation, 9 VAC 25-31-220 K, requires use of best management practices where applicable to control or abate the discharge of pollutants when numeric effluent limits are infeasible or the practices are necessary to achieve effluent limit or to carry out the purpose and intent of the Clean Water Act and State Water Control Law.

The storm water management requirements of the permit are divided into three sections: General Storm Water Special Conditions, General Storm Water Pollution Prevention Plan Requirements, and Sector-Specific Storm Water Pollution Prevention Plan Requirements.

19. Special Conditions (continued):

g. **Part II, Conditions Applicable to All Permits**

Rationale: VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

20. NPDES Permit Rating Work Sheet: Total Score ____ 0 ____

Please see **Attachment A** for completed rating work sheet. There have been no changes since the last permit reissuance.

21. Changes to Permit:

Changes in Effluent Monitoring/Limitations:

Outfall No.	Parameter Changed	Monitoring Requirement Changed		Effluent Limits Changed		Reason	Date
		From	To	From	To		
001, 002	None						

Changes to Special Conditions:

1. Removed Form 2F Monitoring condition – completed form was submitted with the permit application
2. Updated storm water language to reflect current guidance and conform to the VPDES permit manual; changed applicable sector based on company's re-examination of applicable SIC Code (formerly Sector B, Paper and Allied Products; now Sector Y, Rubber and Miscellaneous Plastic Products)

22. Variances/Alternate Limits or Conditions:

The permittee requested and was granted a permit application (Form 2E) testing waiver for BOD₅, TSS, and ammonia at outfalls 001 and 002. These materials are not of substantial concern in once through non-contact cooling water. A single grab sample was allowed for Oil & Grease, COD and TOC.

Reduced Monitoring - Although a reduction in monitoring frequency for pH and temperature may be considered on a case-by-case basis, a reduction is not being proposed for this facility. This is primarily due to the fact that the facility discharges cooling water into a stream that is classified as natural trout waters and a Threatened and Endangered Species Water. It is believed the current monitoring frequency is justified to ensure the temperature standards are being maintained.

23. Public Notice Information required by 9 VAC 25-31-280 B:

All pertinent information is on file and may be inspected or copied by contacting Lynn V. Wise at:

Virginia DEQ, Blue Ridge Regional Office
3019 Peters Creek Road,
Roanoke, VA 24019
Telephone No. (540) 562-6787
E-mail lynn.wise@deq.virginia.gov

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may review the draft permit and application at the DEQ Blue Ridge Regional Office by appointment.

24. Additional Comments:

Previous Board Action: None.

Staff Comments:

A screening for Threatened and Endangered (T&E) Species in the vicinity of the CPFilms facility was performed and a T&E Species Coordination Form package was submitted to the Department of Game and Inland Fisheries, the Department of Conservation and Recreation, and the United States Fish & Wildlife Service. The purpose of the screening is to assure that mixing zones do not impact listed species. The Federally endangered, State endangered (FESE) Roanoke logperch is known to be found in this area. The cooling water discharges are required to meet the in-stream temperature standards at the end-of-pipe. Since no mixing zones are allowed and the effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260-00 et seq., no adverse impacts to this species is expected. By e-mail dated April 7, 2016, the USF&WS noted the Roanoke logperch is known from the area and stated, "we do not anticipate the re-issuance of this existing permit to result in adverse impacts and we have no further comment." By letter dated April 11, 2016, DCR's Division of Natural Heritage confirmed the Smith River has been designated by VDGIF as a "Threatened and Endangered Species Water" and recommended the utilization of new technologies as they become available to improve water quality. No comments had been received by VDGIF at the time this permit was drafted. Further documentation of the T&E species review can be found in the Agency's files at the Regional Office.

By memo dated March 11, 2016, VDH noted that there are no downstream raw water intakes within 15 miles of the discharge. VDH had no objection to the processing of the permit application and waived the right to comment and/or object to the draft permit.

24. Additional Comments

Staff Comments (continued):

The discharge is in conformance with the existing TMDL planning documents for the area. The discharge is not controversial and is currently meeting the required effluent limitations.

Public Comment:

The owner requested some clarifications to the facility description in the Fact Sheet and the outfall designations in the permit. The changes were made as appropriate. The original comments and DEQ response may be found in the agency files.

No other comments were received during the comment period.

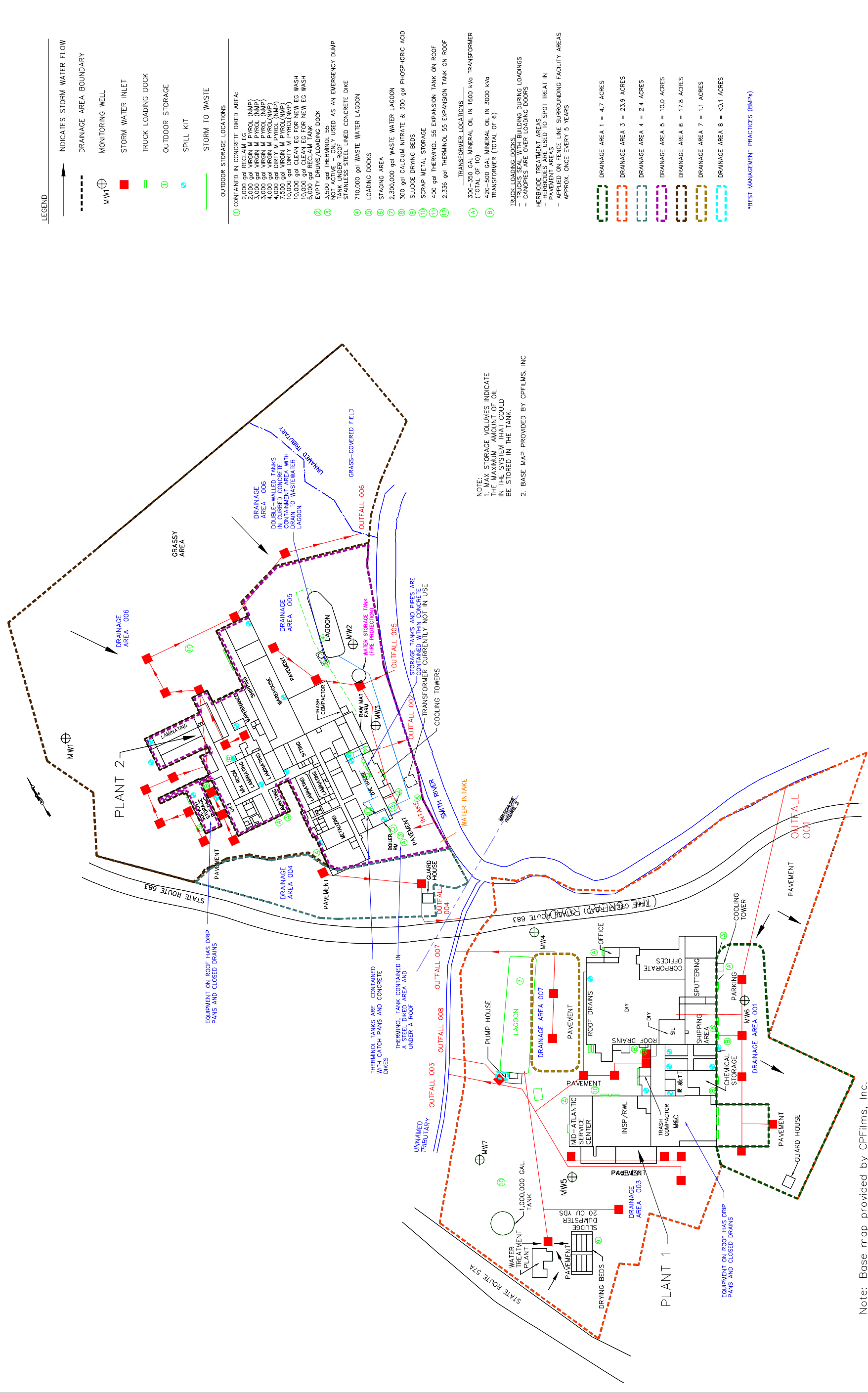
25. 303(d) Listed Segments (TMDL):

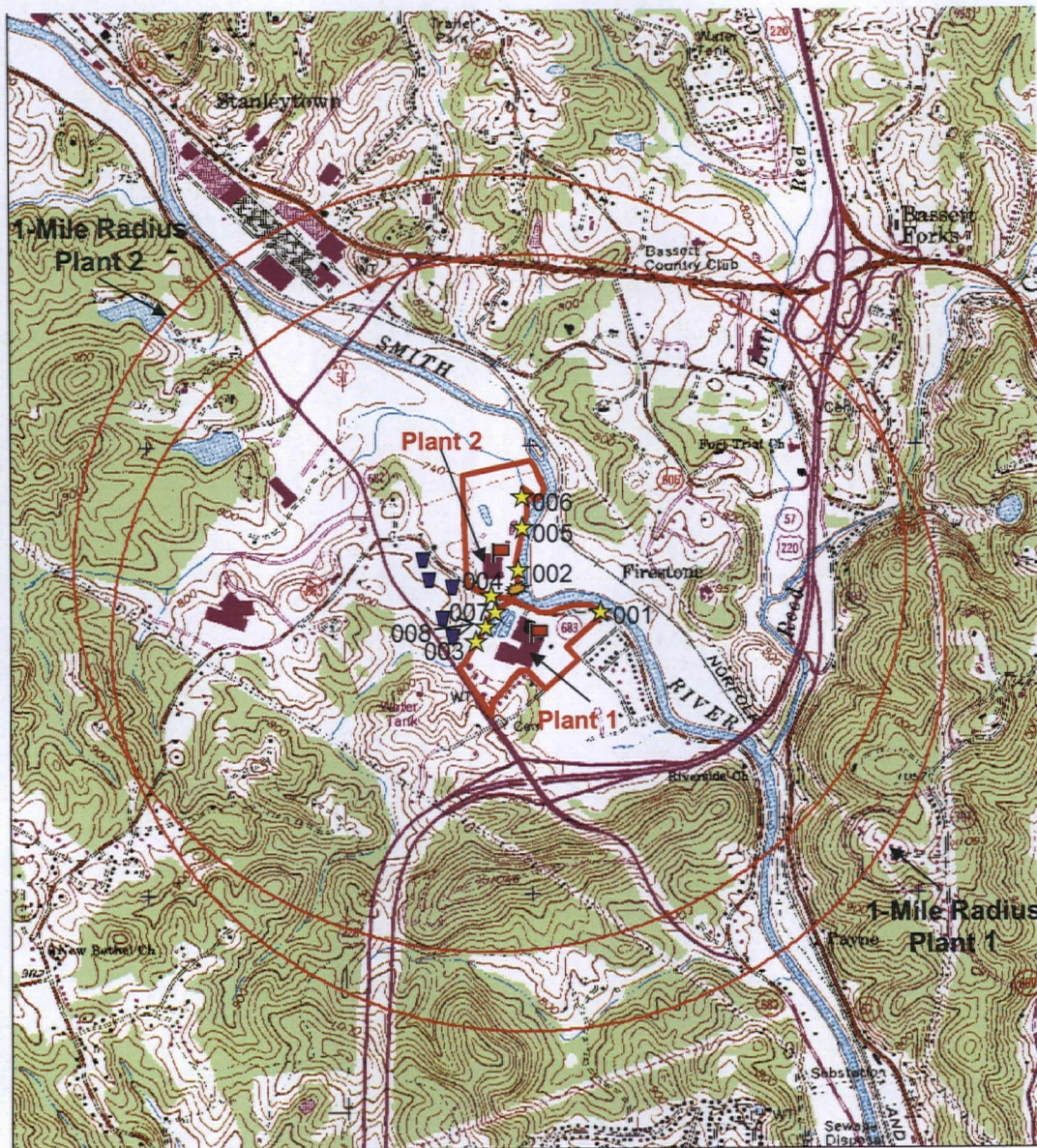
This facility discharges directly to the Smith River. The stream segment receiving the effluent is listed as impaired for bacteria on the current 303(d) list. EPA approved the Bacteria TMDL for the Dan River Watershed (including the Dan River, Blackberry Creek, Byrds Branch, Double Creek, Fall Creek, Leatherwood Creek, Marrowbone Creek, North Fork Mayo River, South Fork Mayo River, Smith River, Sandy Creek, and Sandy River Watersheds) on December 8, 2008. It does not contain a wasteload allocation (WLA) for this discharge. No limit for bacteria is included because the effluent does not contain bacteria.

ATTACHMENT A

GENERAL FACILITY INFORMATION

1. Site Map w/Storm Water
Drainage Areas
2. Location Topographic Map
3. Significant Materials Stored
4. NPDES Permit Rating Worksheet





3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 750 ft Scale: 1:25,000 Detail: 13-0 Datum: WGS84

★ Outfall

□ Facility Boundary

■ Drinking Water Well

☀ Water Intake

CPFilms Inc.
Fieldale, Virginia

Revised 10-Apr-13
Revised 13-Sep-12
March 1, 2000

ATTACHMENT TO FORM 2F

CPFilms, Incorporated

Fieldale, Virginia

IV.B. Narrative Description of Pollutant SourcesOutfall 001 (Plant 1)

- This drainage basin is almost exclusively runoff from a paved parking lot.

Outfall 003 (Plant 2)

- The storm and roof drains located around the facility discharge to this Outfall.
- Raw materials are either stored and handled under a roof or inside the building.
- One tank farm is exposed to stormwater, but this area is diked with a three-foot concrete retaining wall and bermed with earthen material as a secondary containment. This area also has a liner in place for tertiary containment.
- One diked 3,500 gallon emergency dump tank can store Therminol® 55.
- The lagoon is sloped to catch stormwater before it can reach the Outfall.
- All solid domestic waste is kept in dumpsters and is removed three times a week by a refuse company.

Outfall 004 (Plant 2)

- The drainage area for this Outfall:
 - Does not contain and industrial processes
 - Includes the front parking lot to the plant and the guard house, and the grassy areas between the parking lot and the guard house

Outfall 005 (Plant 1)

- The storm and roof drains located around the facility, in the landscaping and parking areas, discharge to this Outfall.
- Fertilizers and lime may be applied to the facility grounds and the herbicide, "Domade" or equivalent is used on an as needed basis for weed control in asphalt and concrete areas.
- All chemicals used for processing are stored inside the main building.
- Stormwater comes into contact with the sludge beds at the WWTP but does not run onto the property

Outfall 006 (Plant 2)

- This Outfall is not monitored because:
 - Discharge to this Outfall does not come into contact with industrial process.
 - The topography includes a grassy field that receives no fertilizers or herbicides.

Outfall 007 (Plant 1)

- This drainage basin is almost exclusively runoff from a paved parking lot.

Outfall 008 (Plant 1)

- Drainage around WWTP Pump Station.

IV.C. Structural Control MeasuresPlant 1

Potential pollutants are reduced by vegetative ground cover. Areas around the WWTP are bermed such that runoff is diverted to the WWTP and not the stormwater outfall. Storm and roof drains are located around the facility and discharge to 003.

Plant 2

Potential pollutants are reduced by vegetative ground cover and natural topography. Stormwater runoff is diverted to the respective outfalls using berms and concrete curbing. The tank farm area has tertiary containment.

NPDES Permit Rating Work Sheet

- ☐ Regular Addition
- ☐ Discretionary Addition
- ☐ Score change, but no status change
- ☐ Deletion

NPDES No.: VIA0072354

Facility Name:

COURTAULDS PERFORMANCE FILMS

City: FIELDALE

Receiving Water: SMITH RIVER & SMITH RIVER/UT

Reach Number:

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

☐ YES; score is 600 (stop here) ☒ NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

- ☐ YES; score is 700 (stop here)
☒ NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: Primary SIC Code: 2671

Other SIC Codes:

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input checked="" type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input type="checkbox"/> 7.	7	35
<input type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: 0

Total Points Factor 1: 0

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A —Wastewater Flow Only Considered

Wastewater Type (See Instructions)	Code	Points
Type I: Flow < 5 MGD	<input type="checkbox"/> 11	0
Flow 5 to 10 MGD	<input type="checkbox"/> 12	10
Flow > 10 to 50 MGD	<input type="checkbox"/> 13	20
Flow > 50 MGD	<input type="checkbox"/> 14	30
Type II: Flow < 1 MGD	<input type="checkbox"/> 21	10
Flow 1 to 5 MGD	<input type="checkbox"/> 22	20
Flow > 5 to 10 MGD	<input type="checkbox"/> 23	30
Flow > 10 MGD	<input type="checkbox"/> 24	50
Type III: Flow < 1 MGD	<input type="checkbox"/> 31	0
Flow 1 to 5 MGD	<input type="checkbox"/> 32	10
Flow > 5 to 10 MGD	<input type="checkbox"/> 33	20
Flow > 10 MGD	<input type="checkbox"/> 34	30

Section B —Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
TYPE I/III:	< 10%	<input checked="" type="checkbox"/> 41	0
	≥ 10% to < 50%	<input type="checkbox"/> 42	10
	≥ 50%	<input type="checkbox"/> 43	20
Type II:	< 10%	<input type="checkbox"/> 51	0
	≥ 10% to < 50%	<input type="checkbox"/> 52	20
	≥ 50%	<input type="checkbox"/> 53	30

Code Checked from Section A or B: 41

Total Points Factor 2: 0

NPDES Permit Rating Worksheet

NPDES No. VIA0072354

FACTOR 3: Conventional Pollutants (only when limited by the permit)

A. Oxygen Demanding Pollutant: (check one) ☐ BOD ☐ COD ☐ Other: N/A

Permit Limits: (check one)			Code	Points
<input type="checkbox"/>	<100 lbs/day		1	0
<input type="checkbox"/>	100 to 1000 lbs/day		2	5
<input type="checkbox"/>	>1000 to 3000 lbs/day		3	15
<input type="checkbox"/>	>3000 lbs/day		4	20

Code Checked: ☐

Points Scored: ☐

B. Total Suspended Solids (TSS)

N/A

Permit Limits: (check one)			Code	Points
<input type="checkbox"/>	<100 lbs/day		1	0
<input type="checkbox"/>	100 to 1000 lbs/day		2	5
<input type="checkbox"/>	>1000 to 5000 lbs/day		3	15
<input type="checkbox"/>	>5000 lbs/day		4	20

Code Checked: ☐

Points Scored: ☐

C. Nitrogen Pollutant: (check one) ☐ Ammonia ☐ Other: N/A

Permit Limits: (check one)		Nitrogen Equivalent	Code	Points
<input type="checkbox"/>	<300 lbs/day		1	0
<input type="checkbox"/>	300 to 1000 lbs/day		2	5
<input type="checkbox"/>	>1000 to 3000 lbs/day		3	15
<input type="checkbox"/>	>3000 lbs/day		4	20

Code Checked: ☐

Points Scored: ☐

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

☐ YES (If yes, check toxicity potential number below)

☐ NO (If no, go to Factor 5)

Determine the human health toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column — check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input checked="" type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input type="checkbox"/> 7.	7	15
<input type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked: 0

Total Points Factor 4: 0

FACTOR 5: Water Quality Factor

NPDES No.

1A 0 0 7 2 3 5 4

- A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

	Code	Points
<input type="checkbox"/> Yes	1	10
<input checked="" type="checkbox"/> No	2	0

- B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
<input checked="" type="checkbox"/> Yes	1	0
<input type="checkbox"/> No	2	5

- C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
<input type="checkbox"/> Yes	1	10
<input checked="" type="checkbox"/> No	2	0

Code Number Checked: A 2 B 1 C 2
 Points Factor 5: A 0 + B 0 + C 0 = 0 TOTAL

FACTOR 6: Proximity to Near Coastal Waters

- A. Base Score: Enter flow code here (from Factor 2): 41

Enter the multiplication factor that corresponds to the flow code: 0.01

Check appropriate facility HPRI Code (from PCS):

	HPRI #	Code	HPRI Score
<input type="checkbox"/>	1	1	20
<input type="checkbox"/>	2	2	0
<input type="checkbox"/>	3	3	30
<input type="checkbox"/>	4	4	0
<input type="checkbox"/>	5	5	20

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked: 1/1

Base Score: (HPRI Score) 0 x (Multiplication Factor) 0 = 0 (TOTAL POINTS)

- B. Additional Points — NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see Instructions) or the Chesapeake Bay?

	Code	Points
<input type="checkbox"/> Yes	1	10
<input checked="" type="checkbox"/> No	2	0

- C. Additional Points — Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see Instructions)

	Code	Points
<input type="checkbox"/> Yes	1	10
<input checked="" type="checkbox"/> No	2	0

Code Number Checked: A 1 B 1 C 1
 Points Factor 6: A 0 + B 0 + C 0 = 0 TOTAL

SCORE SUMMARY

NPDES No

1A0107123154

Factor	Description	Total Points
1	Toxic Pollutant Potential	<u>0</u>
2	Flow/Streamflow Volume	<u>0</u>
3	Conventional Pollutants	<u>0</u>
4	Public Health Impacts	<u>0</u>
5	Water Quality Factors	<u>0</u>
6	Proximity to Near Coastal Waters	<u>0</u>
TOTAL (Factors 1 through 6)		<u>0</u>

S1. Is the total score equal to or greater than 80?

☐ Yes (Facility is a major)

☒ No

S2. If the answer to the above question is no, would you like this facility to be discretionary major?

☒ No

☐ Yes (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE: 0

OLD SCORE: 0

No changes from
old score

12/19/00

LRW

1/18/06

LRW

10/27/10
LRW

Synn V. Wise

Permit Reviewer's Name

(703) 562-3666

Phone Number

5/2/95

Date

ATTACHMENT B

RECEIVING STREAM INFORMATION

1. Flow Frequency Memo
2. 4ASRE033.19 Ambient Data
3. 4ASRE043.54 Ambient Data
4. Excerpt from 2012 Impaired Waters Fact Sheet

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY Blue Ridge Regional Office, Water Division

3019 Peters Creek Road

Roanoke, VA 24019

SUBJECT: Flow Frequency Determination
CPFilms, Inc. – VPDES Permit No. VA0072354

TO: File

FROM: Lynn V. Wise, Environmental Engineer, Sr.

DATE: April 11, 2016

COPIES:

CPFilms, Inc., discharges via eight outfalls (two non-contact cooling water, six storm water) to the Smith River and its tributaries near Fieldale, VA. Stream flow frequencies are required at these sites for the purpose of calculating effluent limitations for the VPDES permit.

Outfalls 001, 002, 005 and 006 are located on the Smith River. Outfall 006 is the upstream-most discharge point and outfalls 005, 002 and 001 follow in downstream order. All four outfalls are in close proximity to one another. The flow frequencies for outfall 006 were determined using the USGS continuous record gauge on the Smith River at Bassett, VA (#02072500). The gauge is located at the Route 666 bridge, in Bassett, VA, and has been in operation since 1939. The Smith River has been regulated by Philpott Dam since 1950; therefore, the period of record from 1951 through 2005 was used. The flow frequencies for the gauge and outfall 006 are presented below. The values at outfall 006 were determined using proportional drainage areas and should be adjusted to account for the volume discharge by the outfalls upstream in order to determine the flow frequencies for outfalls 005, 002 and 001.

Smith River at Bassett, VA (#02072500):

Drainage Area = 259 mi²

1Q10 = 49 cfs	High Flow 1Q10 = 58 cfs
7Q10 = 88 cfs	High Flow 7Q10 = 107 cfs
30Q10 = 101 cfs	High Flow 30Q10 = 116 cfs
30Q5 = 115 cfs	Harmonic Mean = 170 cfs
1Q30 = 45 cfs	

Smith River above Outfall 006:

Drainage Area = 288.44 mi²

1Q10 = 54.5 cfs (35.2 mgd)	High Flow 1Q10 = 64.6 cfs (41.7 mgd)
7Q10 = 98.0 cfs (63.3 mgd)	High Flow 7Q10 = 119.2 cfs (77.0 mgd)
30Q10 = 112.5 cfs (72.7 mgd)	High Flow 30Q10 = 129.2 cfs (83.5 mgd)
30Q5 = 128.1 cfs (82.8 mgd)	Harmonic Mean = 189.3 cfs (122.3 mgd)
1Q30 = 50.11 cfs (32.39 mgd)	

The high flow months for the Smith River are February through June.

Outfalls 003, 007 and 008 discharge to an intermittent stream and outfall 004 discharges to a dry ditch, which flows to the intermittent stream. The flow frequencies for intermittent streams and dry ditches are 0.0 cfs for the 1Q10, 7Q10, 30Q10, 30Q5, high flow 1Q10, high flow 7Q10, high flow 30Q10, and harmonic mean.

Water Shed Code	Station ID	Station Description	Pgc Spc Parameter Code	Name	MIN	MAX	AVG	Number of Samples
VAW-L53R	4ASRE033.19	RT. 701 BELOW FIELDCREST MILL						
			00005	X-SEC. LOC., VERTICAL (PERCENT OF TOTAL DEPTH)	50.00	100	50.54	92
			00070	TURBIDITY, (JACKSON CANDLE UNITS)	1.30	486	64.83	8
			00076	TURBIDITY,HACH TURBIDIMETER (FORMAZIN TURB UNIT)	0.21	400	12.21	102
			00080	COLOR (PLATINUM-COBALT UNITS)	13.00	476	50.44	16
			00082	COLOR,SPECTROPHOTO,WATER SMPL AT7.6PH ADMI UNITS	5.00	198	22.15	106
			00083	COLOR,SPECTROPHOTOMETRIC,FIL,WATER SPL ADMI UNITS	0.39	211.57	22.61	107
			00095	SPECIFIC CONDUCTANCE (UMHOS/CM @ 25C)	38.90	87	63.28	137
			00310	BOD_5 DAY_20 DEG C MG/L	1.00	25	2.07	265
			00340	COD, 25N K2CR2O7 MG/L	1.00	72	7.81	195
			00403	PH, LAB, STANDARD UNITS SU	5.48	8.23	6.70	130
			00410	ALKALINITY, TOTAL (MG/L AS CaCO3)	11.60	41	21.72	128
			00500	TS RESIDUE, TOTAL (MG/L) TOTAL SOLIDS	23.00	600	76.51	291
			00505	TV RESIDUE, TOTAL VOLATILE (MG/L) TOTAL VOLATILE SOLIDS	0.00	91	25.23	213
			00510	TF RESIDUE, TOTAL FIXED (MG/L) TOTAL FIXED SOLIDS	5.00	498	52.38	214
			00515	TDS RESIDUE, TOTAL FILTRABLE (DRIED AT 105C) MG/L TOTAL DISSOLVED SOLIDS	32.00	62	48.81	21
			00530	TSS RESIDUE, TOTAL NONFILTRABLE (MG/L) TOTAL SUSPENDED SOLIDS	0.00	490	15.41	388
			00535	TSV RESIDUE, VOLATILE NONFILTRABLE (MG/L) TOTAL SUSPENDED VOLATILE SOLIDS	0.00	72	5.25	310
			00540	TSF RESIDUE, FIXED NONFILTRABLE (MG/L) TOTAL SUSPENDED FIXED SOLIDS	0.00	418	13.07	307
			00600	NITROGEN, TOTAL (MG/L AS N)	0.10	1.09	0.38	78
			00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	0.01	1.5	0.08	316
			00615	NITRITE NITROGEN, TOTAL (MG/L AS N)	0.01	0.09	0.01	316
			00620	NITRATE NITROGEN, TOTAL (MG/L AS N)	0.01	0.9	0.14	287
			00625	NITROGEN, KJELDAHL, TOTAL, (MG/L AS N)	0.02	2.2	0.27	365
			00630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	0.05	1.3	0.19	29
			00665	PHOSPHORUS, TOTAL (MG/L AS P)	0.00	0.4	0.08	316
			00671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)	0.01	0.21	0.02	111
			00680	CARBON, TOTAL ORGANIC (MG/L AS C)	1.00	36	4.28	200
			00900	HARDNESS, TOTAL (MG/L AS CaCO3)	9.00	44.4	22.60	170
			00915	CALCIUM, DISSOLVED (MG/L AS Ca)	1.00	4	2.50	2
			00925	MAGNESIUM, DISSOLVED (MG/L AS Mg)	1.00	1.8	1.40	2
			00940	CHLORIDE, TOTAL IN WATER MG/L	1.20	6.4	3.72	113
			00945	SULFATE, TOTAL (MG/L AS SO4)	0.04	7.4	4.62	115
			00951	FLUORIDE, TOTAL (MG/L AS F)	0.10	0.5	0.20	14
			00955	SILICA, DISSOLVED (MG/L AS SiO2)	12.55	19.2	15.63	15
			01000	ARSENIC, DISSOLVED (UG/L AS AS)	0.10	0.2	0.15	2
			01002	ARSENIC, TOTAL (UG/L AS AS)	1.00	10	2.43	23
			01003	ARSENIC IN BOTTOM DEPOSITS (MG/KG AS AS DRY WGT)	2.00	10.7	5.20	14
			01005	BARIUM, DISSOLVED (UG/L AS Ba)	10.00	10	10.00	1
			01010	BERYLLIUM, DISSOLVED (UG/L AS BE)	0.10	0.1	0.10	2
			01012	BERYLLIUM, TOTAL (UG/L AS BE)	1.00	1	1.00	1
			01013	BERYLLIUM IN BOTTOM DEPOSITS(MG/KG AS BE DRY WGT)	5.00	5	5.00	8
			01025	CADMIUM, DISSOLVED (UG/L AS Cd)	0.10	0.1	0.10	2
			01027	CADMIUM, TOTAL (UG/L AS Cd)	1.00	20	7.78	27
			01028	CADMIUM,TOTAL IN BOTTOM DEPOSITS (MG/KG,DRY WGT)	0.18	5	3.53	13
			01029	CHROMIUM,TOTAL IN BOTTOM DEPOSITS (MG/KG,DRY WGT)	15.00	66.69	28.54	14
			01030	CHROMIUM, DISSOLVED (UG/L AS Cr)	0.10	0.1	0.10	2
			01034	CHROMIUM, TOTAL (UG/L AS Cr)	1.00	29.99	10.08	37
			01040	COPPER, DISSOLVED (UG/L AS Cu)	0.10	0.4	0.25	2
			01042	COPPER, TOTAL (UG/L AS Cu)	10.00	39.99	12.50	36
			01043	COPPER IN BOTTOM DEPOSITS (MG/KG AS Cu DRY WGT)	6.60	29	15.75	14
			01045	IRON, TOTAL (UG/L AS Fe)	199.90	2599	872.87	7
			01046	IRON, DISSOLVED (UG/L AS Fe)	50.00	100	75.00	2
			01049	LEAD, DISSOLVED (UG/L AS Pb)	0.10	0.1	0.10	2
			01051	LEAD, TOTAL (UG/L AS Pb)	1.00	28.99	7.41	34
			01052	LEAD IN BOTTOM DEPOSITS (MG/KG AS Pb DRY WGT)	5.00	21.3	10.22	14
			01053	MANGANESE IN BOTTOM DEPOSITS (MG/KG AS Mn DRY WGT)	119.00	230	170.33	6
			01055	MANGANESE, TOTAL (UG/L AS Mn)	27.16	240	91.02	7
			01056	MANGANESE, DISSOLVED (UG/L AS Mn)	0.10	16	8.05	2
			01057	THALLIUM, DISSOLVED (UG/L AS Tl)	0.20	0.2	0.20	2
			01059	THALLIUM, TOTAL (UG/L AS Tl)	1.00	1	1.00	1
			01065	NICKEL, DISSOLVED (UG/L AS Ni)	0.10	100	72.36	17
			01067	NICKEL, TOTAL (UG/L AS Ni)	10.00	20	11.00	10
			01068	NICKEL, TOTAL IN BOTTOM DEPOSITS (MG/KG,DRY WGT)	3.33	17	9.69	14
			01075	SILVER, DISSOLVED (UG/L AS Ag)	0.10	0.1	0.10	2
			01078	SILVER IN BOTTOM DEPOSITS (MG/KG AS Ag DRY WGT)	5.00	5	5.00	8
			01090	ZINC, DISSOLVED (UG/L AS Zn)	1.00	1	1.00	2
			01092	ZINC, TOTAL (UG/L AS Zn)	10.00	99.99	19.58	37
			01093	ZINC IN BOTTOM DEPOSITS (MG/KG AS Zn DRY WGT)	14.00	60.5	34.92	14
			01095	ANTIMONY, DISSOLVED (UG/L AS Sb)	0.10	0.1	0.10	2
			01098	ANTIMONY IN BOTTOM DEPOSITS (MG/KG AS Sb DRY WGT)	5.00	16	7.17	6
			01106	ALUMINUM, DISSOLVED (UG/L AS Al)	0.10	2.1	1.10	2
			01108	ALUMINUM IN BOTTOM DEPOSITS (MG/KG AS Al DRY WGT)	2520.00	11500	6420.00	6
			01145	SELENIUM, DISSOLVED (UG/L AS Se)	0.50	0.5	0.50	2
			01147	SELENIUM, TOTAL (UG/L AS Se)	1.00	20	10.50	2
			01148	SELENIUM IN BOTTOM DEPOSITS (MG/KG AS Se DRY WGT)	1.00	5	1.44	9
			01170	IRON IN BOTTOM DEPOSITS (MG/KG AS Fe DRY WGT)	10000.00	22400	15450.00	6
			01351	FLOW, STRM,1DRY,2LOW,3NORM,4FLOOD,5ABOVE NORM,CODE	2.00	5	3.20	212
			31505	COLIFORM,TOT,MPN,CONFIRMED TEST,35C (TUBE 31506)	11000.00	11000	11000.00	7
			31616	FECAL COLIFORM,MEMBR FILTER,M-FC BROTH,44.5 C	25.00	780000	2687.07	411
			31648	E. COLI - MTEC-MF N0/100ML	10.00	2000	184.60	78
			31649	ENTEROCOCCI-ME-MF N0/100ML	10.00	690	177.78	9
			32210	CHLOROPHYLL-A UG/L TRICHROMATIC UNCORRECTED	0.50	2.792	1.21	15
			32211	CHLOROPHYLL-A UG/L SPECTROPHOTOMETRIC ACID. METH.	0.50	2.14	1.06	15
			32212	CHLOROPHYLL-B UG/L TRICHROMATIC UNCORRECTED	0.50	0.5	0.50	15
			32214	CHLOROPHYLL-C UG/L TRICHROMATIC UNCORRECTED	0.50	0.5	0.50	15
			32218	PHEOPHYTIN-A UG/L SPECTROPHOTOMETRIC ACID. METH.	0.50	0.98	0.54	15
			32219	PHEOPHYTIN RATIO(OD 663)/SPECTRO,BEFORE/AFTER ACID	1.46	2.148	1.68	10
			32240	TANNIN AND LIGNIN (MG/L)	0.00	5	0.40	104
			34259	DELTA BENZENE HEXACHLORIDE TOTWUG/L	0.10	0.1	0.10	2
			34351	ENDOSULFAN SULFATE TOTWUG/L	0.10	0.1	0.10	2
			34356	ENDOSULFAN, BETA TOTWUG/L	0.10	0.1	0.10	2
			34361	ENDOSULFAN, ALPHA TOTWUG/L	0.10	0.1	0.10	2
			34366	ENDRIN ALDEHYDE TOTWUG/L	0.10	0.1	0.10	2
			34480	THALLIUM DRY WGTBTMG/KG	5.00	5	5.00	7
			34671	PCB - 1016 TOTW UG/L	0.10	0.1	0.10	2

Code	Station ID	Station Description		MIN	MAX	AVG	Samples	
VAW-L53R	4ASRE033.19	RT. 701 BELOW FIELDCREST MILL	Pgc Spc Parameter Code	Name				
			38442	DICAMBA (BANVEL) WATER,DISSUG/L	0.20	0.2	0.20	2
			38451	DICHLORPROP WATER,SUSPUG/L	0.20	0.2	0.20	2
			38745	2,4-DB WATER, TOTUG/L	0.20	0.2	0.20	2
			39032	PCP (PENTACHLOROPHENOL) WHOLE WATER SAMPLE UG/L	0.00	0.1	0.05	4
			39061	PCP (PENTACHLOROPHENOL) IN BOT DEPOS DRY SOL UG/KG	0.01	250	84.30	10
			39062	CHLORDANE-CIS ISOMER,WHOLE WATER SAMPL (UG/L)	0.00	0	0.00	2
			39065	CHLORDANE-TRNS ISOMER,WHOLE WATER SAMPL (UG/L)	0.00	0	0.00	2
			39068	CHLORDANE-NONACHLOR,CIS ISO,WHOLE WTR (UG/L)	0.00	0	0.00	2
			39071	CHLORDANE-NONACHLOR,TPANS ISO,WHOLE WTR (UG/L)	0.00	0	0.00	2
			39300	P,P' DDT IN WHOLE WATER SAMPLE (UG/L)	0.00	0.1	0.05	4
			39305	O,P' DDT IN WHOLE WATER SAMPLE (UG/L)	0.00	0	0.00	2
			39310	P,P' DDD IN WHOLE WATER SAMPLE (UG/L)	0.00	0.1	0.05	4
			39315	O,P' DDD IN WHOLE WATER SAMPLE (UG/L)	0.00	0	0.00	2
			39320	P,P' DDE IN WHOLE WATER SAMPLE (UG/L)	0.00	0.1	0.05	4
			39327	ORTHO PARA DDE IN WHOLE WATER SAMPLE (UG/L)	0.00	0	0.00	2
			39330	ALDRIN IN WHOLE WATER SAMPLE (UG/L)	0.00	0.1	0.06	5
			39333	ALDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0.00	100	32.51	12
			39337	ALPHA BENZENE HEXACHLORIDE IN WHOLE WATER SAMP	0.10	0.1	0.10	2
			39338	BETA BENZENE HEXACHLORIDE IN WHOLE WATER SAMP	0.10	0.1	0.10	2
			39340	GAMMA-BHC(LINDANE),WHOLE WATER,UG/L	0.10	0.1	0.10	2
			39350	CHLORDANE(TECH MIX & METABS),WHOLE WATER,UG/L	0.00	0	0.00	2
			39351	CHLORDANE(TECH MIX&METABS),SEDIMENTS,DRY WGT,UG/KG	1.00	500	142.80	10
			39363	DDD IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0.10	100	42.41	10
			39368	DDE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0.10	100	42.51	10
			39373	DDT IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0.10	100	43.01	10
			39380	DIELDRIN IN WHOLE WATER SAMPLE (UG/L)	0.00	0.1	0.05	4
			39383	DIELDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)	0.10	100	36.81	10
			39390	ENDRIN IN WHOLE WATER SAMPLE (UG/L)	0.00	0.1	0.05	4
			39393	ENDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	0.10	100	56.81	10
			39400	TOXAPHENE IN WHOLE WATER SAMPLE (UG/L)	0.10	0.1	0.10	2
			39403	TOXAPHENE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)	1.00	1000	210.40	10
			39410	HEPTACHLOR IN WHOLE WATER SAMPLE (UG/L)	0.10	0.1	0.10	2
			39413	HEPTACHLOR IN BOT. DEP. (UG/KILOGRAM DRY SOLIDS)	0.10	100	26.12	10
			39420	HEPTACHLOR EPOXIDE IN WHOLE WATER SAMPLE (UG/L)	0.10	0.1	0.10	2
			39480	METHOXYCHLOR IN WHOLE WATER SAMPLE (UG/L)	0.00	0	0.00	2
			39488	PCB - 1221 IN THE WHOLE WATER SAMPLE UG/L	0.10	0.1	0.10	2
			39492	PCB - 1232 PCB SERIES WHOLE WATER SAMPLE UG/L	0.10	0.1	0.10	2
			39496	PCB - 1242 PCB SERIES WHOLE WATER SAMPLE UG/L	0.10	0.1	0.10	2
			39500	PCB - 1248 PCB SERIES WHOLE WATER SAMPLE UG/L	0.10	0.1	0.10	2
			39508	PCB - 1260 PCB SERIES WHOLE WATER SAMPLE UG/L	0.10	0.1	0.10	2
			39516	PCBS IN WHOLE WATER SAMPLE (UG/L)	0.00	0	0.00	2
			39526	PCBS TOTAL,IN SEDIMENT,DRY (ISOMER ANALYSES) UG/KG	1.00	500	133.80	10
			39630	ATRAZINE(AATREX) IN WHOLE WATER SAMPLE (UG/L)	0.50	0.5	0.50	1
			39631	ATRAZINE IN BOTTOM DEPOS (UG/KG DRY SOLIDS)	0.00	0.1	0.03	3
			39700	HEXACHLOROBENZENE IN WHOLE WATER SAMPLE (UG/L)	0.00	0	0.00	2
			39730	2,4-D IN WHOLE WATER SAMPLE (UG/L)	0.20	0.2	0.20	2
			39740	2,4,5-T IN WHOLE WATER SAMPLE (UG/L)	0.20	0.2	0.20	2
			39760	SILVEX IN WHOLE WATER SAMPLE (UG/L)	0.20	0.2	0.20	2
			46570	HARDNESS, CA MG CALCULATED (MG/L AS CaCO3)	19.62	19.62	19.62	1
			50091	MERCURY-TL,FILTERED WATER,ULTRATRACE METHOD NG/L	1.50	1.5	1.50	2
			630BX	630 Optical Path Density before addition of HCl	0.00	0.0135	0.01	15
			647BX	647 Optical Path Density before addition of HCl	0.00	0.0176	0.01	15
			664BX	664 Optical Path Density before addition of HCL	0.00	0.0423	0.02	15
			665AX	665 Optical Path Density after addition of HCl	0.00	0.032	0.02	15
			70300	TDS RESIDUE,TOTAL FILTRABLE (DRIED AT 180C),MG/L	47.00	65	52.67	6
			70505	PHOSPHATE,TOTAL,COLORIMETRIC METHOD (MG/L AS P)	0.01	0.4	0.11	76
			70507	PHOSPHORUS,IN TOTAL ORTHOPHOSPHATE (MG/L AS P)	0.01	0.21	0.03	205
			71900	MERCURY, TOTAL (UG/L AS HG)	0.30	0.5	0.42	34
			71921	MERCURY,TOT IN BOT DEPOS (MG/KG AS HG DRY WGT)	0.01	0.5	0.25	13
			71994	VOLUME OF WATER FILTERED LITERS	0.30	0.3	0.30	15
			74041	STORET STORAGE TRANSACTION DATE YR/MO/DAY	860908.00	990127	927842.53	154
			75045	HEPTACHLOR EPOXIDE SEDIMENT,DRY,WT,UG/KG	10.00	100	40.89	9
			750AX	750 Optical Path Density after addition of HCl	0.00	0.0085	0.01	15
			750BX	750 Optical Path Density before addition of HCl	0.00	0.0075	0.01	15
			77825	ALACHLOR WHOLE WATER,UG/L	0.20	0.2	0.20	2
			79799	DICOFOL (KELTHANE) SEDIMENT,DRY,WT,UG/KG	70.00	140	104.78	9
			82078	TURBIDITY,FIELD NEPHELOMETRIC TURBIDITY UNITS,NTU	1.30	172	12.24	24
			82079	TURBIDITY,LAB NEPHELOMETRIC TURBIDITY UNITS, NTU	0.12	197	10.83	81
			CELLP	Cell Path (cm)	5.00	5	5.00	15
			DHARD	HARDNESS, CA MG CALCULATED (MG/L AS CaCO3) AS DISSOLVED	1.00	18	9.50	2
			ECOLI	E.COLI BY COLILERT SM 9223-B	31.00	1112	310.55	11
			EXTVO	Chlorophyll Extract Volume (ml)	10.00	10	10.00	15

Water Shed Code	Station ID	Station Description	Pgc Spc Parameter	Name	MIN	MAX	AVG	Number of Samples
VAW-L52R	4ASRE043.54	RT. 674 BR ABOVE TOWN CREEK	00070	TURBIDITY, (JACKSON CANDLE UNITS)	0.30	52	4.03	47
			00076	TURBIDITY HACH TURBIDIMETER (FORMAZIN TURB UNIT)	0.18	18.3	3.16	101
			00080	COLOR (PLATINUM-COBALT UNITS)	0.20	95	17.53	37
			00082	COLOR,SPECTROPHOTO,WATER SMPL AT7.6PH ADMI UNITS	0.00	57.1	12.19	132
			00083	COLOR,SPECTROPHOTOMETRIC,FIL,WATER SPL ADMI UNITS	0.00	99.2	12.32	129
			00095	SPECIFIC CONDUCTANCE (UMHOS/CM @ 25C)	32.00	110	57.74	164
			00310	BOD_5 DAY_20 DEG C MG/L	0.60	8	1.66	171
			00340	COD_25N K2CR2O7 MG/L	1.00	518	10.93	134
			00403	PH, LAB, STANDARD UNITS SU	5.47	8.12	6.70	187
			00410	ALKALINITY, TOTAL (MG/L AS CaCO3)	13.20	27.1	19.17	185
			00500	TS RESIDUE, TOTAL (MG/L) TOTAL SOLIDS	5.00	359	52.58	319
			00505	TV RESIDUE, TOTAL VOLATILE (MG/L) TOTAL VOLATILE SOLIDS	4.00	122	20.92	237
			00510	TF RESIDUE, TOTAL FIXED (MG/L) TOTAL FIXED SOLIDS	0.00	277	33.18	239
			00515	TDS RESIDUE, TOTAL FILTRABLE (DRIED AT 105C),MG/L TOTAL DISSOLVED SOLIDS	12.00	57	42.91	23
			00530	TSS RESIDUE, TOTAL NONFILTRABLE (MG/L) TOTAL SUSPENDED SOLIDS	0.00	40	3.53	325
			00535	TSV RESIDUE, VOLATILE NONFILTRABLE (MG/L) TOTAL SUSPENDED VOLATILE SOLIDS	0.00	15	2.60	245
			00540	TSF RESIDUE, FIXED NONFILTRABLE (MG/L) TOTAL SUSPENDED FIXED SOLIDS	0.00	29	2.81	244
			00600	NITROGEN, TOTAL (MG/L AS N)	0.10	0.61	0.30	80
			00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	0.01	0.4	0.06	250
			00615	NITRITE NITROGEN, TOTAL (MG/L AS N)	0.01	0.03	0.01	249
			00620	NITRATE NITROGEN, TOTAL (MG/L AS N)	0.04	2	0.14	218
			00625	NITROGEN, KJELDAHL, TOTAL, (MG/L AS N)	0.02	1.4	0.22	299
			00630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	0.05	0.8	0.18	31
			00665	PHOSPHORUS, TOTAL (MG/L AS P)	0.00	0.2	0.06	251
			00671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)	0.01	0.18	0.03	41
			00680	CARBON, TOTAL ORGANIC (MG/L AS C)	1.00	5.1	2.22	100
			00900	HARDNESS, TOTAL (MG/L AS CaCO3)	6.80	37.3	20.97	177
			00927	MAGNESIUM, TOTAL (MG/L AS MG)	1900.00	1900	1900.00	1
			00940	CHLORIDE,TOTAL IN WATER MG/L	1.00	165	4.18	167
			00945	SULFATE, TOTAL (MG/L AS SO4)	3.00	53.3	4.84	145
			00951	FLUORIDE, TOTAL (MG/L AS F)	0.06	0.5	0.14	44
			00955	SILICA, DISSOLVED (MG/L AS SiO2)	9.99	15.6	12.47	41
			01002	ARSENIC, TOTAL (UG/L AS AS)	1.00	10	4.29	17
			01003	ARSENIC IN BOTTOM DEPOSITS (MG/KG AS AS DRY WGT)	5.00	5	5.00	9
			01013	BERYLLIUM IN BOTTOM DEPOSITS(MG/KG AS BE DRY WGT)	5.00	5	5.00	8
			01027	CADMIUM, TOTAL (UG/L AS CD)	1.00	10	8.34	22
			01028	CADMIUM,TOTAL IN BOTTOM DEPOSITS (MG/KG,DRY WGT)	5.00	5	5.00	9
			01029	CHROMIUM,TOTAL IN BOTTOM DEPOSITS (MG/KG,DRY WGT)	23.30	37	29.93	9
			01034	CHROMIUM, TOTAL (UG/L AS CR)	5.00	50	12.34	32
			01042	COPPER, TOTAL (UG/L AS CU)	5.00	50	14.35	31
			01043	COPPER IN BOTTOM DEPOSITS (MG/KG AS CU DRY WGT)	17.00	23.81	19.98	9
			01045	IRON, TOTAL (UG/L AS FE)	90.00	253.08	135.28	10
			01051	LEAD, TOTAL (UG/L AS PB)	1.00	15	8.89	28
			01052	LEAD IN BOTTOM DEPOSITS (MG/KG AS PB DRY WGT)	5.00	19	11.59	9
			01053	MANGANESE IN BOTTOM DEPOSITS (MG/KG AS MN DRY WGT)	280.00	712	447.00	6
			01055	MANGANESE, TOTAL (UG/L AS MN)	10.00	130	51.38	10
			01065	NICKEL, DISSOLVED (UG/L AS NI)	10.00	100	87.14	14
			01067	NICKEL, TOTAL (UG/L AS NI)	5.00	50	25.00	5
			01068	NICKEL, TOTAL IN BOTTOM DEPOSITS (MG/KG,DRY WGT)	9.80	16	12.78	9
			01078	SILVER IN BOTTOM DEPOSITS (MG/KG AS AG DRY WGT)	5.00	5	5.00	8
			01092	ZINC, TOTAL (UG/L AS ZN)	5.00	59.99	17.06	31
			01093	ZINC IN BOTTOM DEPOSITS (MG/KG AS ZN DRY WGT)	33.00	58	42.93	9
			01098	ANTIMONY IN BOTTOM DEPOSITS (MG/KG AS SB DRY WGT)	5.00	14	8.00	6
			01108	ALUMINUM IN BOTTOM DEPOSITS (MG/KG AS AL DRY WGT)	9280.00	13700	11396.67	6
			01147	SELENIUM, TOTAL (UG/L AS SE)	5.00	20	10.00	3
			01148	SELENIUM IN BOTTOM DEPOSITS (MG/KG AS SE DRY WGT)	1.00	5	1.44	9
			01170	IRON IN BOTTOM DEPOSITS (MG/KG AS FE DRY WGT)	18400.00	26500	21650.00	6
			01351	FLOW, STRM,1DRY,2LOW,3NORM,4FLOOD,5ABOVE NORM,CODE	3.00	5	3.07	174
			31505	COLIFORM,TOT,MPN,CONFIRMED TEST,35C (TUBE 31506)	1.00	11000	3265.56	9
			31616	FECAL COLIFORM,MEMBR FILTER,M-FC BROTH,44.5 C	0.00	6000	186.52	341
			31648	E. COLI - MTEC-MF NO/100ML	10.00	2000	59.85	68
			31649	ENTEROCOCCI- ME-MF NO/100ML	10.00	30	13.75	8
			32240	TANNIN AND LIGNIN (MG/L)	0.00	5	0.31	119
			32730	PHENOLICS, TOTAL, RECOVERABLE (UG/L)	0.00	0.01	0.00	9
			34480	THALLIUM DRY WGTBOTMG/KG	5.00	5	5.00	7
			39061	PCP (PENTACHLOROPHENOL) IN BOT DEPOS DRY SOL UG/KG	50.00	80	66.67	9
			39333	ALDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	10.00	100	43.11	9
			39351	CHLORDANE(TECH MIX&METABS), SEDIMENTS,DRY WGT,UG/KG	40.00	500	157.11	9
			39363	DDD IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	10.00	100	44.67	9
			39368	DDE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	10.00	100	46.00	9
			39373	DDT IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	20.00	100	46.44	9
			39383	DIELDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)	10.00	100	40.67	9
			39388	ENDOSULFAN IN WHOLE WATER SAMPLE (UG/L)	0.20	0.2	0.20	1
			39393	ENDRIN IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOLIDS)	30.00	100	61.67	9
			39403	TOXAPHENE IN BOTTOM DEPOS. (UG/KILOGRAM DRY SOL.)	1.00	1000	227.11	9
			39413	HEPTACHLOR IN BOT. DEP. (UG/KILOGRAM DRY SOLIDS)	0.10	100	27.68	9
			39526	PCBS TOTAL IN SEDIMENT,DRY (ISOMER ANALYSES) UG/KG	10.00	500	148.11	9
			46570	HARDNESS, CA MG CALCULATED (MG/L AS CaCO3)	17.72	17.72	17.72	1
			70300	TDS RESIDUE,TOTAL FILTRABLE (DRIED AT 180C),MG/L	39.00	49	43.67	6
			70505	PHOSPHATE,TOTAL,COLORIMETRIC METHOD (MG/L AS P)	0.05	0.7	0.11	79
			70507	PHOSPHORUS,IN TOTAL ORTHOPHOSPHATE (MG/L AS P)	0.01	0.32	0.03	208
			71900	MERCURY, TOTAL (UG/L AS HG)	0.30	0.6	0.46	28
			71921	MERCURY,TOT IN BOT DEPOS (MG/KG AS HG DRY WGT)	0.30	0.5	0.32	9
			75045	HEPTACHLOR EPOXIDE SEDIMENT,DRY,WT,UG/KG	10.00	100	40.67	9
			79799	DICOFOL (KELTHANE) SEDIMENT,DRY,WT,UG/KG	70.00	160	100.00	9
			82078	TURBIDITY,FIELD NEPHELOMETRIC TURBIDITY UNITS,NTU	0.67	7.7	3.16	24
			82079	TURBIDITY,LAB NEPHELOMETRIC TURBIDITY UNITS, NTU	0.10	11.5	2.34	84
			ECOLI	E.COLI BY COLILERT SM 9223-B	10.00	63	15.30	10



2012 Impaired Waters

Category 4 & 5 by 2012 Impaired Area ID*

Roanoke and Yadkin River Basins

Cause Group Code: **L52R-01-BAC - Smith River**

Location:	The bacteria impairment begins at the Blackberry Creek mouth on Smith River VAW-L52R (Bassett Quad) and extends downstream to the backwaters of the Martinsville power pool (Martinsville West Quad).
City/County	Henry Co., Martinsville City
Use(s):	Recreation
Cause(s) / VA Category:	Escherichia coli / 4A

The original 2002 Assessment basis for 303(d) Listing the waters is exceedance of the former fecal coliform (FC) bacteria instantaneous criterion of 1000 cfu/100 ml and the former geometric mean (WQS frequency of 2 samples/calendar month of 200 cfu/100 ml causing the waters to not support the recreational use. Special monitoring on Blackberry Creek (L52R) and the Smith River (L53R) reported and 303(d) Listed these exceedances in 2002.

The Dan River Bacteria Total Maximum Daily Load (TMDL) is U.S. EPA approved 12/8/2008 [Fed ID 35756] and SWCB approved 4/28/2009. The Smith River is encompassed by the overall Dan River Bacteria TMDL Watershed and allocations. Portions of the Smith River are nested within the TMDL Watershed. The TMDL and allocations can be viewed at <http://www.deq.virginia.gov>.

A portion of the bacteria impaired waters were delisted in 2004 for the area between the Blackberry Creek mouth on the Smith River (L52R Bassett Quad) extending downstream to the Reed Creek confluence on the Smith River L53R- Martinsville West Quad), 2.29 miles. The de-listing of these waters was based on an exceedance rate of less than 10.5%. This portion returned to 303(d) Listing status with the 2006 Integrated Report (IR) based on stations 2000W0034A and 4ASRE036.55. The total bacteria impairment size is 10.18 miles.

4ASRE036.55- There are no additional data beyond the 2008 assessment where *Escherichia coli* (E.coli) are found to exceed the 235 cfu/100 ml instantaneous criterion in three of 21 samples. Exceeding values range from 250 to 720 cfu/100 ml. 2006 exceedances are 250 and 350 cfu/100 ml from two of nine samples.

4ASRE033.19- Ten of 46 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion within the 2012 data window. The range of exceedance is from 250 cfu/100 ml to greater than 2000. The 2010 assessment finds E.coli exceed the instantaneous criterion in nine of 43 observations with the same range of exceedance as 2012. E.coli exceed the instantaneous criterion in four of 31 samples in 2008. Exceeding values range from 280 to 1000 cfu/100 ml.

Special Study Stations:

2008 E. coli exceedances / total observations; range 2008 / 2006 & 2004 exceedances / total observations; range 2004.

2000W0034B- (downstream of Blackberry Creek confluence)- SS data ends 6/06/02- 1 of 10 at 270 / 2006 & 2004- 2 of 20; 270 to >800.

2000W0034A- (located downstream in VAW-L53R)- SS data ends 6/06/02- 1 of 11 exceeds at >800 / 2006 & 2004- 2 of 21; at >800.

Assessment Unit	Water name	Location Description	Cause Category	Cause Name	Cycle First Listed	TMDL Schedule	Size
VAW-L52R_SRE01A00	Smith River	The Smith River mainstem from the Blackberry Creek mouth downstream to Rock Run mouth (Watershed Boundary).	4A	Escherichia coli	2006	2008	0.96
VAW-L53R_SRE01B06	Smith River	Smith River mainstem from the former E. I. duPont outfall upstream to the E. I. duPont water intake on the Smith River.	4A	Escherichia coli	2008	2008	0.49
VAW-L53R_SRE02A00	Smith River	Smith River mainstem from the E. I. duPont intake upstream to the former Henry County PSA Upper Smith River STP outfall.	4A	Escherichia coli	2008	2008	4.26

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VAW-L53R_SRE03A00	Smith River	Smith River mainstem from the Henry County PSA Upper Smith River STP upstream to the mouth of Reed Creek.	4A	Escherichia coli	2008	2008	2.18
VAW-L53R_SRE04A00	Smith River	Smith River mainstem from the mouth of Reed Creek upstream to an unnamed tributary. The unnamed tributary is approximately 0.70 miles downstream of the Alt. 57 Bridge.	4A	Escherichia coli	2006	2008	0.81
VAW-L53R_SRE05A00	Smith River	Smith River mainstem from an unnamed tributary located approximately 0.70 miles downstream of the Alt. 57 Bridge, upstream to the watershed boundary at the mouth of Rock Run.	4A	Escherichia coli	2006	2008	1.48

Smith River

Estuary (sq. miles) **Reservoir (acres)** **River (miles)**

Impaired area ID: VAW-L54R-01

Escherichia coli / 4A

Total impaired size by water type:

10.18

Recreation

Sources:

- Municipal (Urbanized High Density Area)
- Unspecified Domestic Waste
- Wet Weather Discharges (Non-Point Source)
- Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)
- Wildlife Other than Waterfowl

* Narrative descriptions, location and city/county describe the entire extent of the impairment. Sizes may not represent the total size of the impairment.

ATTACHMENT C

EFFLUENT SCREENING AND LIMITATIONS

1. DMR Data
2. Storm Water Data and EPA SW
Benchmark Values
3. Pump Control Diagram

CPFilms, Inc. - VPDES Permit No. VA0072354
Outfall 002

DMR Due Date	Flow (MGD)		pH (su)		Temp Rise deg C	Temp Downstream	Temp Upstream	Effluent Temp
	Avg	Max	Min	Max				
10-Jul-2011								
10-Aug-2011								
10-Sep-2011								
10-Oct-2011								
10-Nov-2011								
10-Dec-2011								
10-Jan-2012								
10-Feb-2012	1.142	1.762	6.8	7.9	0.5	105	10	12.1
10-Mar-2012	1.193	1.774	7.4	7.9	0.3	8	7.8	12
10-Apr-2012	0.375	1.183	7.1	7.4	0.3	9.3	9.2	11
10-May-2012								
10-Jun-2012								
10-Jul-2012								
10-Aug-2012								
10-Sep-2012								
10-Oct-2012								
10-Nov-2012								
10-Dec-2012	0.886	1.9464	6.9	7.54	0.2	125	125	12.3
10-Jan-2013	0.745	0.9286	6.7	7.7	0.3	12.9	12.7	13.3
10-Feb-2013	0.832	0.903	6.4	7.57	0.3	11.4	11.2	12.1
10-Mar-2013	0.81	1.0139	6.98	7.43	0.2	5.5	5.9	6.7
10-Apr-2013								
10-May-2013	0.629	0.629	7.67	7.67	0	9.7	9.7	9.9
10-Jun-2013								
10-Jul-2013								
10-Aug-2013	0.121	0.121	7.5	7.5	<1.0	11	11	11
10-Sep-2013								
10-Oct-2013	0.42	0.42	7.2	7.2	0	15.4	15.4	15.5
10-Nov-2013	0.052	0.052	7.1	7.1	0	17.5	17.5	17.5
10-Dec-2013								
10-Jan-2014								
10-Feb-2014								
10-Mar-2014								
10-Apr-2014								
10-May-2014								
10-Jun-2014								
10-Jul-2014								
10-Aug-2014								
10-Sep-2014	0.056	0.102	6.7	6.9	0	17.9	17.9	17.9
10-Oct-2014								
10-Nov-2014	0.118	0.118	7.8	7.8	0	16.5	16.5	16.6
10-Dec-2014								
10-Jan-2015	0.129	0.129	7.1	7.1	0	8.4	8.4	8.4
10-Feb-2015	0.553	0.553	7.5	7.5	0	7.2	7.2	7
10-Mar-2015								
10-Apr-2015								
10-May-2015	0.018	0.018	7	7	0	16.1	16.1	16
10-Jun-2015								
10-Jul-2015	0.071	0.071	6.7	6.7	0	19.1	19.1	18.9
10-Aug-2015								
10-Sep-2015								
10-Oct-2015	0.072	0.141	6.8	7.5	0	18	18.2	18.1
10-Nov-2015	0.237	0.237	7.5	7.5	0.2	13.1	12.9	15.6
10-Dec-2015								
10-Jan-2016								
10-Feb-2016								
10-Mar-2016								
10-Apr-2016								

Form 2F Storm Water Data for CPFilms, Inc.
VPDES Permit No. VA0072354
Sample Date 7/28/2015

	Outfall 007	Outfall 005	EPA Benchmark
O&G	<4.7	<5.0	15
BOD5	5	23	30
COD	26	46	120
TSS	17	7.2	100
TKN	1.1	2.2	
NO2+NO3	0.38	0.34	0.68
P	<0.1	<0.1	2
pH	6.41	6.01	6.0-9.0

Outfall 005 samples for Outfall 003, 005
Outfall 007 sampled for Outfall 001, 004, 007, and 008
No industrial activity in drainage area for 006.

